



Delta Wildlife

VOLUME XI, NO. 3

FALL 2003

2003-04 Hunting Season

**Duck Numbers
Up this Fall**

**Quail Numbers Up in
Quail Project Areas**

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Quail and Songbird Habitat Restoration Project

Second Year Avian Research Summary

by Ross Conover

Winter:

The field borders appeared to be extremely beneficial for an abundance of avian species that spent their winter in the MAV. Over 3,300 birds were recorded on the plots and 56 bird species identified in and around the borders (see Table 1). Specifically, several species of sparrows were seen flocking in the borders, as well as using them for escape cover. Results from our first winter post-planting indicate significantly greater avian richness and abundance in the treated borders compared with the control borders (Fig. 1, A and B).

Breeding Season:

Avian Diversity and Abundance: The field season of 2003 revealed a tremendous improvement in the vegetative composition and structure within the established field borders compared to 2002. The native warm season grasses appeared healthy, as they out-competed many invasive species on several borders. Species richness and abundance increased in treated borders compared to control borders from 2002 to 2003 (Fig. 2). Since 2002, we have documented 66 bird species (59 in 2002; 62 in 2003) in and around the field borders during the breeding season. The most abundant birds during the 2003 breeding season in decreasing order are Red-winged Blackbird, Northern Cardinal, Dickcissel, Common Grackle, and Mourning Dove (Table 2). The avian community in general showed a positive response, as the avian abundance and species richness within the treated field borders improved vastly from 2002 to 2003 (mean richness increased from 0.28 to 0.52, mean abundance increased from 0.33 to 0.67), while the opposite trend was observed in the control borders (mean richness declined from 0.36 to 0.05, mean

Project Site in Holmes County



abundance declined from 0.84 to 0.05). Results indicated the avian community preferred the established borders in 2003 over 2002 (Fig. 3). This transition of the avian community is likely from the enhanced growth of the vegetation in the field borders in the 2003 breeding season.

Productivity: During the 2002 breeding season, we found over 250 nests, mostly of Red-winged Blackbird and Dickcissel. Other species found breeding in the restored field borders included Blue Grosbeak, Eastern Towhee, Northern Mockingbird, Wild Turkey, and Yellow-billed Cuckoo. Only nine of these nests were found in the protocol 10-meter borders, while the rest were located in borders of greater width (Fig. 4). Not a single nest was found in the

control plots. Reproductive success of Red-winged Blackbird and Dickcissel also revealed a correlation with width to nesting success, excepting the 15 m border (Fig. 5). This exception may be due to small sample size, and it gives incentive to continue to monitor the nesting density and nesting success of borders wider than 10 m. Current results suggest 15 m may be a more appropriate minimum width, and that quality will increase with additional width. Future research will continue to try and determine if there is an optimal, or minimum, field border width that will draw birds and provide suitable habitat for successful breeding.

Northern Bobwhite: Northern Bobwhite were documented on frequent

Species Found in Plots During '03 Winter Survey

SpeciesTotal

Common Grackle	596
European Starling	593
Mourning Dove	541
Unidentified Sparrow	192
Northern Cardinal	138
Killdeer	120
Song Sparrow	119
Blue Jay	117
White-throated Sparrow	108
Red-bellied Woodpecker	87
American Pipit	79
Horned Lark	73
Carolina Wren	65
Swamp Sparrow	59
Red-winged Blackbird	58
American Robin	52
Carolina Chickadee	30
Golden-crowned Kinglet	29
Savannah Sparrow	28
Unidentified	28
Yellow-rumped Warbler	26
Brown-headed Cowbird	22
Eastern Phoebe	22
Downy Woodpecker	19
Northern Flicker	18
Red-tailed Hawk	18
Double-crested Cormorant	15
Northern Mockingbird	15
Mallard	12
Ruby-crowned Kinglet	11
American Goldfinch	8
Eastern Towhee	8
Field Sparrow	8
Northern Shoveler	8
Hermit Thrush	7
Vesper Sparrow	5
Eastern Meadowlark	4
Lapland Longspur	4
Brown Thrasher	3

SpeciesTotal

Eastern Bluebird	3
Northern Harrier	3
Chipping Sparrow	2
Coopers Hawk	2
Common Snipe	2
Dark-eyed Junco	2
Great Horned Owl	2
Yellow-bellied Sapsucker	2
American Kestrel	1
Barred Owl	1
Brown Creeper	1
Eurasian Collared Dove	1
Tufted Titmouse	1
Fox Sparrow	1
Great Blue Heron	1
Hairy Woodpecker	1
Pine Warbler	1
Ring-necked Duck	1
White-crowned Sparrow	1

Total.....3374

occasions throughout the 2003 breeding season utilizing field borders. Several coveys were observed in field borders toward the end of the breeding season. Our Bobwhite call counts were confounded by herbicide treatments (just days before call counts were conducted) and incimate weather during 2003, and are not comparable with counts from 2002. The transect counts reveal that quail abundances have increased (Fig. 6).



Field Crew: Field crew for 2003 consisted of five wildlife technicians that traveled from across the nation to work with the project: Noelle Rayman (New York), Cecilia Leumas (Louisiana), Kamaile Nichols (California), Garret Conover (Colorado), and Wendy Decaluwe (Michigan).

Restoration Project continued on page 20



Warm Season Grasses



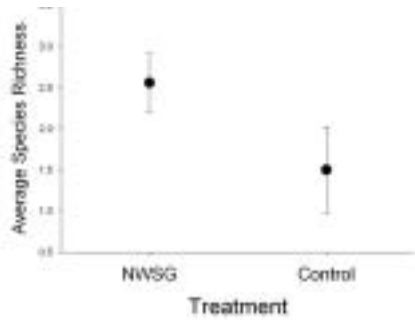
Nest in the center of this Big Bluestem clump.

Birds Found in Plots during the Breeding Season

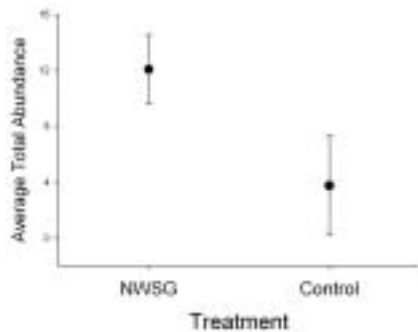
Species	Total 02	Tot 03
Red-winged Blackbird	1439	1904
Northern Cardinal	597	499
Dickcissel	249	396
Mourning Dove	263	389
Blue Jay	350	302
Indigo Bunting	195	255
Yellow-billed Cuckoo	128	251
Common Grackle	345	237
Carolina Wren	206	230
Red-bellied Woodpecker	118	169
Brown-headed Cowbird	108	167
Carolina Chickadee	107	93
Horned Lark	68	93
Eastern Meadowlark	15	85
Northern Mockingbird	111	83
Killdeer	81	78
Eastern Towhee	51	76
Downy Woodpecker	49	75
Northern Bobwhite	37	75
Eastern Tufted Titmouse	29	65
Barn Swallow	63	26
Chimney Swift	17	23
Orchard Oriole	18	19
American Robin	17	17
Brown Thrasher	6	16
Unidentified	30	16
Blue Grosbeak	3	12
Summer Tanager	8	12
Wood Duck	2	12
Loggerhead Shrike	12	9
Northern Flicker	0	9
Great Crested Flycatcher	7	8
Great Horned Owl	2	8
Prothonotary Warbler	7	8
Mallard	5	7

Species	Total 02	Tot 03
Baltimore Oriole	3	6
Great Blue Heron	11	6
Great Egret	21	6
European Starling	2	5
Pileated Woodpecker	1	5
Purple Martin	0	5
Tree Swallow	0	5
Eastern Kingbird	1	4
Red-tailed Hawk	4	4
Eastern Bluebird	10	3
Green Heron	2	3
Red-headed Woodpecker	3	3
Barred Owl	2	2
Common Nighthawk	0	2
Common Yellowthroat	1	2
Eastern Wood-Pewee	4	2
Hairy Woodpecker	0	2
Louisiana Waterthrush	0	2
Ruby-throated Hummingbird	1	2
Acadian Flycatcher	1	1
Black-crowned Night Heron	0	1
Black and White Warbler	0	1
Eastern Phoebe	0	1
Little Blue Heron	0	1
Painted Bunting	9	1
Red-eyed Vireo	0	1
White-breasted Nuthatch	0	1
Wood Thrush	5	1
Blue-gray Gnatcatcher	1	0
Barn Owl	1	0
Cliff Swallow	1	0
Double-crested Cormorant	10	0
Pine Warbler	3	0
Yellow-breasted Chat	2	0
Total	4842	5802

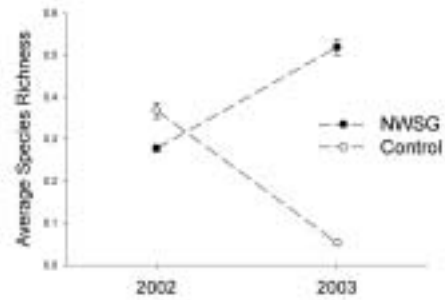
Species Diversity - Winter 2003



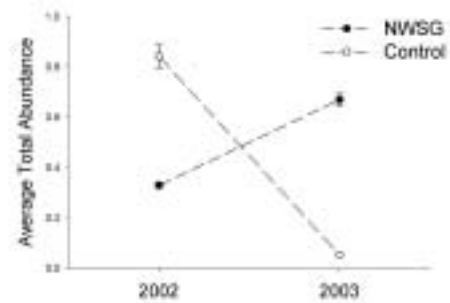
Species Abundance - Winter 2003



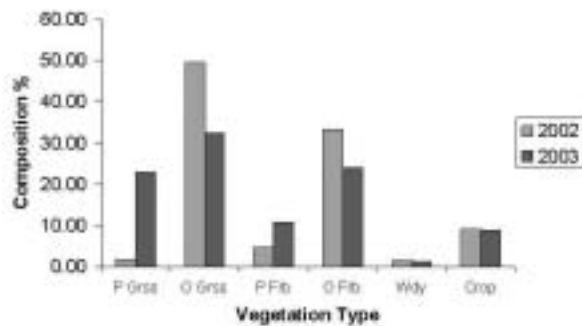
Species Diversity - Summer 2003



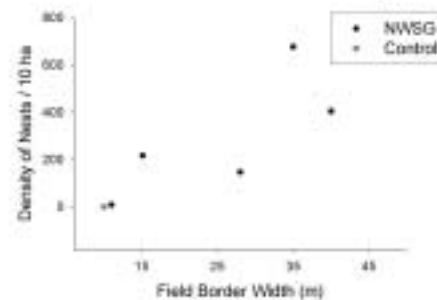
Species Abundance - Summer 2003



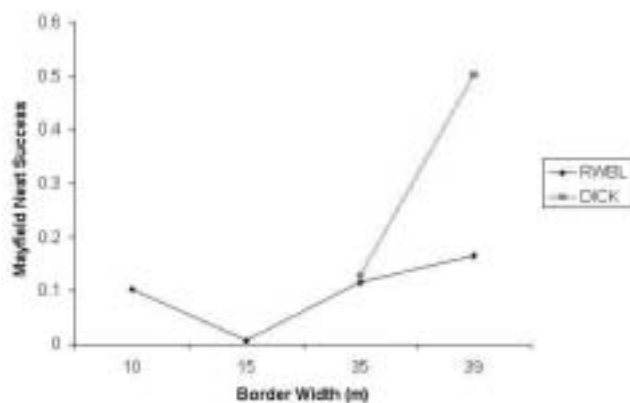
Vegetation Composition In Field Borders



Influence of Field Border Width on Nesting Birds



Nesting Success according to Buffer Width



Northern Bobwhite Abundance in Plots

